Europäisches Patentamt

European Patent Office

Office européen des brevets



EP 1 166 721 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 03.12.2003 Bulletin 2003/49

(51) Int Cl.7: A61B 17/34, A61B 17/11

(11)

- (43) Date of publication A2: 02.01.2002 Bulletin 2002/01
- (21) Application number: 01120160.5
- (22) Date of filing: 11.10.1996
- (84) Designated Contracting States:

 AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC

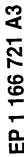
 NL PT SE
- (30) Priority: 13.10.1995 US 5164 P 02.02.1996 US 10614 P
- (62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC: 96936499.1 / 0 954 248
- (71) Applicant: Transvascular, Inc. Menio Park, CA 94025 (US)
- (72) Inventors:
 - Evard, Philip C.
 Arroyo Grande, CA 93420 (US)
 - Flaherty, J. C.
 Topsfield, MA 01983 (US)
 - Garibotto, John T.
 Peabody, MA 01960 (US)

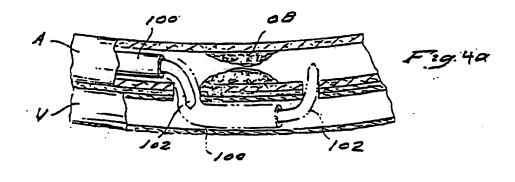
- Macaulay, Patrick E.
 San Jose, CA 95118 (US)
- Machold, Timothy R.
 Moss Beach, CA 94038 (US)
- Makower, Joshua Los Altos, CA 94022 (US)
- Whitt, Jason B.
 San Francisco, CA 94133 (US)
- Vidal, Clade A.
 Santa Barbara, CA 93111 (US)
- Redmond, Russel J.
 Goleta, CA 93117 (US)
- Banks, Thomas
 Santa Barbara, CA 93110 (US)
- (74) Representative: Whitaker, lain Mark et al Sommerville & Rushton Business Link Building 45 Grosvenor Road St. Albans, Hertfordshire AL1 3AW (GB)

(54) Apparatus for transvascular procedures

(57) This invention is methods, devices, and systems for re-vascularization, and/or performing other medical procedures at a vascular or non-vascular intracorporeal locations within a mammalian body. The methods generally comprise the formation of at least one extravascular passageway from a blood vessel to a vascular or non-vascular target location. In the re-vas-

cularization methods the extravascular passageway is utilized as a conduit for accessing or performing procedures at the vascular or non-vascular target location. Also disclosed are catheter devices (100, 103) and systems (138) which are usable to form the extravascular passageways of the invention, as well as apparatus for modifying, maintaining and/or closing such extravascular passageways.







EUROPEAN SEARCH REPORT

Application Number EP 01 12 0160

	DOCUMENTS CONSIDERE	D IO BE RELEVANT	Relevant	CLASSIFICATION OF THE
ategory	Citation of document with indicat of relevant passages	ion, where appropriate,	to claim	APPLICATION (Int.Cl.7)
X	WO 93 08738 A (TAJIK A FOUNDATION (US); SEWAR 13 May 1993 (1993-05-2 page 7, line 2 - line 2 page 9, line 17 - line 2 page 9, line 2 page 9 p	13)	60-87	A61B17/34 A61B17/11
A,D	US 5 287 861 A (WILK 22 February 1994 (199 * column 3, line 62 - figures 3A-E,,4-6C *	ハーいノーノノト	60	
A	WO 92 10142 A (PFIZER 25 June 1992 (1992-06 * page 6, line 16 - p figures 1,2 *		60	
A	WO 94 20037 A (AMERIO 15 September 1994 (19 * page 7, line 5 - page 1-4 *	age 9, line 24;	60	TECHNICAL FIELDS SEARCHED (Int.Ci.7)
A	WO 95 17131 A (MONAM; BREYER BRANKO (HR); 29 June 1995 (1995-0 * page 5, line 22 - figures 1-3 *		H 60,78	A61B
A .	US 5 428 699 A (PON) 27 June 1995 (1995-6 * abstract * * column 13, line 56 figure 1 *	6-27) 5 - column 14, line 6;	60,78	3-80
x	US 5 035 702 A (TAH 30 July 1991 (1991- * abstract; figures	0/-30J	88-9	2
	The present search report has	been drawn up for all claims		- Complete
	Place of search	Date of completion of the search		Moers, R
8	THE HAGUE	16 October 200	airle condesite	ing the Invention
AN 1500	CATEGORY OF CITED DOCUMENTS : particularly relevant if taken alone : particularly relevant if combined with anot document of the same category : technological background : in on-written disclosure : intermediate document	after the fung D : document of L : document of	date ted in the app ed for other r	olipation

2



EUROPEAN SEARCH REPORT

Application Number EP 01 12 0160

1	DOCUMENTS CONSIDER				
Category	Citation of document with indica of relevant passages	tion, where appropriate,	Rele to cla		CLASSIFICATION OF THE APPLICATION (InLCL7)
X	WO 93 00868 A (OWEN) 21 January 1993 (1993 * abstract; figure 5	-01-21) *	88-9	2	
X	DE 26 57 255 A (SCHOM 29 June 1978 (1978-06 * claim 1; figure 1 *	-29)	88-9	2	
X	DATABASE WPI Section PQ, Week 9207 Derwent Publications Class P31, AN 92-0551 XP002097328	Ltd., London, .65	GB;	92	
	& SU 1 635 966 A (SVI 23 March 1991 (1991-6 * abstract *	ERD MED INST), 03-23)			
X	US 5 234 447 A (KAST 10 August 1993 (1993 * abstract; figure 1	-08-10)	88-	92	TECHNICAL FIELDS
x	EP 0 282 157 A (AVAN 14 September 1988 (1 * abstract; figures	988-09-14)	88-	92	SEARCHED (Int.Cl.7)
X	US 5 429 144 A (WILK 4 July 1995 (1995-07 * abstract; figure 9	·-04)	88		
X	EP 0 666 065 A (MORI 9 August 1995 (1995- * abstract; figures	-08-09}	88,	91	
		-			
	The present search report has t	een drawn up for all clai	ms		
	Place of search	Date of completi	on of the search		Examiner
§	THE HAGUE	16 Octo	ber 2003	Mod	ers, R
ĝ Λ.	CATEGORY OF CITED DOCUMENTS : particularly relevant if taken alone :particularly relevant if combined with anot document of the same category : technological background : non-written disclosure	her D	theory or principle und earlier patent docume after the filing data document cited in the document cited for oth member of the same	nt, but publi application ner reasons	ished on, or

3



Application Number

EP 01 12 0160

LAIMS II	NCURRING FEES
e present	European patent application comprised at the time of filing more than ten claims.
Onl	y part of the claims have been paid within the prescribed time limit. The present European search or that the claims for the first ten claims and for those claims for which claims fees have on the paid, namely claim(s):
☐ No	claims fees have been paid within the prescribed time limit. The present European search report has en drawn up for the first ten claims.
ACK O	F UNITY OF INVENTION
	n Division considers that the present European patent application does not comply with the telephone that the present European patent application of inventions, namely:
see	sheet B
1	All further search fees have been paid within the fixed time limit. The present European search report has seen drawn up for all claims.
النا	As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
	Only part of the further search tees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
	None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
1	



LACK OF UNITY OF INVENTION SHEET B

Application Number

EP 01 12 0160

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 60-87

A catheter device having rotational orientation means

2. Claims: 88-92

A longitudinal compression apparatus.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 01 12 0160

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.

The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-10-2003

Patent document		Publication date		Patent family member(s)	Publication date
cited in search report			US	5325860 A	05-07-1994
WO 9308738	Α	13-05-1993	CA	2121353 A1	13-05-1993
				0611292 A1	24-08-1994
			EP	0950373 A2	20-10-1999
			EP	7505791 T	29-06-1995
			JP	50556 A1	20-07-1998
			SG	6129672 A	10-10-2000
			US	2002058873 A1	16-05-2002
			US	5005020012 VT	21-03-2000
			US	6039693 A	08-08-2000
4			US	6099475 A	13-05-1993
			MO	9308738 A1	23-10-2001
			US	6306096 B1	03-02-1998
			US	5713363 A	06-01-1998
			US	5704361 A	13-09-1994
			US	5345940 A	12-03-1334
			us	5409019 A	25-04-1995
US 5287861	Α	22-02-1994	US	5429144 A	04-07-1995
				124616 T	15-07-1995
WO 9210142	Α	25-06-1992	ΑT	663065 B2	28-09-1995
MO 3510145	•••		ΑU	9055591 A	08-07-1992
			AU		11-06-1992
			CA	2094250 A1	29-07-1993
			DE	9190181 U1	10-08-1995
			DE	69111079 D1	02-11-1995
			DE	03111000	21-08-1995
			DK	561903 T3	29-09-1993
			EP	0561903 A1	01-10-1995
			ES	2075676 T3	30-11-1995
			GR	3017061 T3	17-06-1992
			ΙE	914281 Al	22-02-1995
			JP	7014394 B	21-10-1993
			JP	5507230 T	31-01-1994
			PT	99730 A ,B	25-06-1992
			WO	9210142 A1	23-00-1332
			ı AU	6276094 A	26-09-1994
WO 9420037	A	15-09-1994	WO		15-09-1994
		****		931513 A1	30-04-1996
WO 9517131	Α	29-06-199	5 HR		30-04-1996
MO ADTATAT	••		HR		06-05-1999
,			DE		16-12-1999
			DE		29-06-1995
			WC		09-10-1996
.1			El		16-06-1999
			E:	2129803 T3	10-00 1222

For more details about this annex: see Official Journal of the European Patent Office, No. 12/82

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 01 12 0160

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-10-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9517131	A		US	5840030 A	24-11-1998
us 5428699	Α	27-06-1995	NONE		
US 5035702	A	30-07-1991	NONE		
wo 9300868	Α	21-01-1993	AT AU WO CA DE DE EP JP US	175568 T 658915 B2 9300868 A1 2112474 A1 69228184 D1 69228184 T2 0593600 A1 7500023 T 5456714 A	15-01-1999 04-05-1995 21-01-1993 21-01-1993 25-02-1999 16-09-1999 27-04-1994 05-01-1995
DE 2657255	Α	29-06-1978	DE US	2657255 A1 4233981 A	29-06-1978 18-11-1980
SU 1635966		23-03-1991	SU	1635966 A1	23-03-1991
US 5234447	Α	10-08-1993	WO AU EP US US AT DE	9504503 A1 4803593 A 0713373 A1 5403333 A 5366462 A 207723 T 69331066 D1	16-02-1995 28-02-1995 29-05-1996 04-04-1995 22-11-1994 15-11-2001 06-12-2001
EP 0282157	A	14-09-1988	US AT BR CA DE EP ES IL JP KR US	4873977 A 84200 T 8800566 A 1295904 C 3877227 D1 3877227 T2 0282157 A1 2038749 T3 85336 A 1046444 A 2542032 B2 9604976 B1 4848367 A	17-10-1989 15-01-1993 27-09-1988 18-02-1992 18-02-1993 27-05-1993 14-09-1988 01-08-1993 14-01-1993 20-02-1989 09-10-1996 18-04-1996
US 5429144	Α	04-07-1995		5409019 A 5287861 A	25-04-1995 22-02-1994

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 01 12 0160

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-10-2003

 Patent document cited in search report		Publication, date		Patent family member(s)	Publication date
 0666065	A	09-08-1995	US EP	5466242 A 0666065 A1	14-11-1995 09-08-1995
				•	
••	·				
		•			
				÷	
					-
	•		-		
•					

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82